

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of)

PUBLIC UTILITIES COMMISSION)

Docket No. 2008-0273

Instituting a Proceeding to Investigate)
the Implementation Of Feed-in Tariffs)
_____)

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HAIKU DESIGN AND ANALYSIS
COMMENTS ON THE HECO COMPANIES'
PROPOSED RELIABILITY STANDARDS
AND
CERTIFICATE OF SERVICE

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HAIKU DESIGN AND ANALYSIS
COMMENTS ON THE HECO COMPANIES'
PROPOSED RELIABILITY STANDARDS

Carl Freedman, dba Haiku Design and Analysis (HDA) respectfully offers the following brief comments on the "HECO Companies Report on Reliability Standards" (HECO Reliability Standards Report) filed with the Commission by Hawaiian Electric Company, Inc. (HECO), Hawaii Electric Light Company, Inc. (HELCO), and Maui Electric Company, Limited (MECO), collectively referred to herein as "HECO Companies", on February 8, 2010.

(1) THE HECO RELIABILITY STANDARDS REPORT DOES NOT IDENTIFY RELIABILITY STANDARDS.

The HECO Reliability Standards Report sets proposed caps on the amount of distributed generation that could be added to the HECO Companies' systems but does not identify reliability standards. Neither the report nor the HECO Companies' apparent

intended ongoing approach comport with HDA's interpretation of the Commission's directives to develop reliability standards.

HDA understands the term "reliability standards" to mean a set of indices or criteria that define what constitutes adequate reliability on a utility system and/or what specifications, requirements or operating protocols are necessary to maintain utility system reliability. The Commission's Decision and Order cites to the opening briefs of Sopogy and HDA regarding the need for reliability standards.

Sopogy and HDA propose that the commission direct the HECO Companies to "develop such standards that clarify what constitutes grid system reliability." (Decision and Order dated September 25, 2009 at 48, quoting from Sopogy Opening Brief, at 14-15).

"There are currently no system reliability standards adopted or applicable to the HECO Company systems that are meaningful in determining the amount of distributed generation or as-available generation that can be accommodated without adversely affective service reliability. There are not standards that can serve to determine what demand response, load management, energy storage or grid improvement measures could mitigate or accommodate increasing levels of distributed and/or as-available generation. The Commission should initiate a process or could direct the HECO Companies to initiate a process to develop reliability standards." (Decision and Order dated September 25, 2009 at 48-49, quoting from HDA Opening Brief, at 9)

HECO's Reliability Standards Report does not provide any standards that clarify what constitutes grid system reliability. No standards are offered that are meaningful in determining the amount of distributed or as-available generation that could be added to the utility systems or in determining the extent to which demand response, load management, energy storage or other grid improvement measures could mitigate or accommodate increasing levels of as-available generation. According to HDA's understanding of the meaning of the term, no meaningful reliability standards are provided in the report. Instead,

the report jumps to the task of identifying caps and limits on the amounts of distributed generation that the utility grids can accommodate without first developing any meaningful standards.

HDA understands the Commission's Decision and Order to require the HECO Companies to make decisions regarding size limits, system caps or specific projects based on reliability standards. The limits, caps and decisions are not the same thing as the reliability standards. Regarding size limits the Commission states

... In addition, the commission will reiterate the HECO Companies' continuing obligation to ensure system reliability. As such, the HECO Companies maintain the ability and obligation to refuse to interconnect projects that will substantially compromise reliability or result in an unreasonable cost to ratepayers. For instance, based on the reliability standards discussed below, the utility could determine that projects above certain sizes or using certain technologies are not possible in certain locations without degrading reliability or necessitating costly system upgrades. As discussed below, the utility need not interconnect projects that would likely face significant curtailment or cause significant curtailment for existing renewable energy generators. (Decision and Order dated September 25, 2009 at 44, emphasis added)

HECO is supposed to make several determinations based on its reliability standards. The HECO Reliability Standards Report, however, does not provide any standards upon which the required determinations can meaningfully be based. For example, the report does not offer any standards or criteria to clarify the meaning of the terms "substantially compromise reliability" or "significant curtailment".

Regarding system caps the Commission states:

... However, in the commission's view, the caps are not mandates, but maximum levels for FIT participation. For reliability reasons, it might not be possible to reach all caps. As noted above, the HECO Companies maintain their obligation to ensure reliability. Based on reliability standards or interconnection studies, the HECO Companies must reject projects that substantially compromise reliability. (Decision and Order dated September 25, 2009 at 56, emphasis added)

Again here, HECO is supposed to make decisions based on reliability standards. The HECO Reliability Standards report, however, jumps ahead to set system caps for each utility system without first providing any underlying criteria or standards that would determine whether a project would “substantially compromise reliability”.

HDA realizes that HECO was required to provide its reliability standards in a limited amount of time and has proposed an ongoing process to further examine reliability standards. As explained in HDA’s previous comments regarding HECO’s proposed Reliability Standards Working Group, however, it is not clear whether the proposed process is intended to result in meaningful reliability standards.

**(2) IT IS NOT CLEAR BASED ON AVAILABLE INFORMATION THAT
DISTRIBUTED PHOTOVOLTAIC GENERATION POSES SUBSTANTIAL PROBLEMS
FOR THE HELCO AND MECO UTILITY SYSTEMS**

The HECO Reliability Standards Report proposes to defer all feed-in tariff generation until some uncertain future time. The report does not differentiate between generation types. Although HDA has not conducted a thorough analysis, it does not appear that any data or analysis provided in the report or in subsequent responses to information requests credibly supports a conclusion that photovoltaic generation is posing or, in the amounts contemplated to be acquired by feed-in tariff, would pose any significant problems for the HECO Companies’ utility systems. Several problematic issues have been identified associated with the variability of wind generation but the available data seem to indicate that photovoltaic generation is and would NOT cause significant problems.

- The curtailment issues identified in the report do not occur in daytime hours when photovoltaic generation is active. The report's assertions that distributed generation (comprised almost entirely of photovoltaic sources) is causing or exacerbating curtailment are vacuous.
- The system stability issues associated with photovoltaic generation identified in the report are being mitigated by adjustments to inverter under-frequency and voltage settings.
- Available data do not indicate that photovoltaic generation is causing substantial ramping or variability problems on the HELCO or MECO systems.

It is certainly possible that distributed photovoltaic systems are presenting problems for the HELCO and MECO systems but this has not been established by any data or analysis in the HECO Reliability Standards Report or responses to information requests reviewed by HDA. HDA has initiated an informal dialogue with the HECO Companies to investigate the exact nature of the companies' specific concerns regarding distributed photovoltaic generation and to identify any feasible short term mitigating measures that could be taken by the companies or photovoltaic system providers.

CERTIFICATE OF SERVICE

The foregoing HAIKU DESIGN AND ANALYSIS COMMENTS ON THE HECO COMPANIES' PROPOSED RELIABILITY STANDARDS was served by electronic transmission on the date of signature below to the following parties in this docket except that as noted, the Division of Consumer Advocacy was also served two copies on the same date by first class mail:

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Dated: March 22, 2010; Haiku, Hawaii

Signed: CARL FREEDMAN
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dba Haiku Design and Analysis